

REMARKS

This is in full and timely response to the above-identified Office Action. The above listing of the claims supersedes any previous listing. Favorable reexamination and reconsideration are respectfully requested in view of the preceding amendments and the following remarks.

Claim amendments/Status

In this response, the claims are maintained as they were finally rejected.

Rejections under 35 USC § 103

- 1) The rejection of Claims 1-5 & 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,155,182 to Tsangaris et al. in view of US 5280,757 to Carter et al. and further in view of US 3,357,383 to Golovanov et al.; and
- 2) the rejection of claim 6 under 35 U.S.C. 103(a) as being unpatentable over Tsangaris et al. in view of Carter et al. and Golovanov et al. and further in view of US 5,640,913 to Nyysonen; are respectfully traversed.

In this rejection, the Examiner has abandoned all of the previously cited references and has cited new art. In addition, and possibly prematurely, made the rejection final. While this art is a little more pertinent than that previously cited, there are still a clear number of claimed features that are not rendered obvious and as such a *prima facie* case of obviousness has not been established.

That is to say, the rejection admits that the Tsangaris et al. reference fails to disclose the formation of a cyclonic flow, however, it omits to acknowledge that the Tsangaris et al. reference also fails to disclose the gas burner which is used in conjunction with the plasma torch. The rejection attempts to introduce this extra burner based on the very brief/minuscule disclosure of a preheating torch in the Carter et al. reference - see column 4, lines 15-17, of Carter et al. - when attempting to reject the claimed auxiliary chamber using the marked-up version of this reference.

In connection with this mark-up, however, it is asserted that the hypothetical person of ordinary skill would not be inclined to consider that elements that have been grouped, would sensibly amount to the claimed second reactor. It is also submitted the gas burner (recited in

claim 1) is so weakly disclosed in Carter et al. as to fail to provide any disclosure that would lead the hypothetical person of ordinary skill to consider adding this to the Tsangaris et al. arrangement. That is to say, the Tsangaris et al. reference fails to suggest that the plasma torch is insufficient in and of itself, to heat the slag/material into a molten state. Preheating is not disclosed as being a shortcoming and as such there is no reason that the hypothetical person of ordinary skill would be inclined to consider the transfer of teachings alleged to be obvious.

Further, another very serious flaw in the Examiner's position is the assumption that the cyclonic flow, such as illustrated by his marked up version of Fig. 1A of Tsangaris et al., will actually occur. If one looks to Fig. 1B of Tsangaris et al. it will be understood that the reaction chamber of Tsangaris et al. is cylindrical with a vertical axis and that the bottom of this chamber is tub-like with partitioning member 17b acting as a raised dam that partially divides the lower portion into two semi-circular portions. This arrangement is such that the molten slag, rather than flowing over the dam will preferably flow around it as shown by the arrows in Fig. 1B.

It is submitted that if any gas flow is apt to occur it would be about a vertical axis (due to the circular side walls) of the chamber and not about a horizontal one as claimed.

Further, the assumption that a gas rotation of the nature illustrated by the Examiner would exist at any time is untenable in light of the shape of the reaction chamber, the lip (no numeral) that extends into the path of the flow and the disclosure which describes the manner in which the plasma torch can be circulated/moved about. That is to say, there is nothing in this reference to suggest that the plasma torch will stay in the illustrated position for a time sufficient to possibly induce a rotating gas flow and not be moved so as to be directed directly downward toward the flat section 17a of the processing platform 17.

Attention is also called to the fact that the concentric circles which are illustrated in Fig. 1A and denoted by numeral 15, are disclosed as being a granular waste feed mechanism (see column 6, lines 61-62) and not a basis for assuming cyclonic flow.

Inasmuch as the rejection is made under § 103 it is asserted that the logic applied in this rejection is that which may be found in § 102 rejections but is not transferable to obviousness rejections wherein common sense is required. An example of this lack of common sense is found in paragraph #11 (page 6), wherein the claimed downwardly extending separator well is

allegedly suggested by the upwardly extending dam having surfaces 17b and 17c. These may be vertical or near vertical walls but they clearly extend up not down.

Further problems that result from the proposed combination are that the hypothetical person of ordinary skill would be bound to consider all of the teachings which are found in Tsangaris et al. and Carter et al. Therefore, the dilemma induced by the movable plasma torch in Tsangaris et al. v the fixed device in Carter et al. would have to be resolved especially in light of the tiltable nature of the reaction chamber in Carter et al. v the fixed arrangement in Tsangaris et al. before any tenable possibility of combination could be seen to evolve.

In order to establish a *prima facie* case of obviousness, it is necessary to show that the hypothetical person of ordinary skill would, without any knowledge of the claimed subject matter and without any inventive activity, be provided with disclosure of all of the claimed elements and then motivated to arrive at the claimed subject matter given the guidance of the cited references when each is fully considered as statutorily required. It is submitted that the examiner has failed to meet these requirements for at least the above discussed issues.

The citation of the Golovanov et al. reference does nothing to resolve the problems that are encountered with Tsangaris et al. and Carter et al. and the sketched arrangements presented by the Examiner.

The final rejection based on the above, is deemed untenable and should be withdrawn. Reconsideration is respectfully requested.

### Conclusion

It is respectfully submitted that the claims as they currently stand before the Patent Office are allowable over the art which has been applied in this Office Action. Favorable reconsideration and allowance of this application are courteously solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including

extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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Date: September 10, 2009  
YSH/KJT/jr